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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/911,519	07/25/2001	Peter Jaenecke	Q65313	4229

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SUGHRUE, MION, ZINN, MACPEAK & SEAS, PLLC
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037-3213

EXAMINER

TAYLOR, NICHOLAS R

ART UNIT	PAPER NUMBER
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2141

DATE MAILED: 03/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/911,519	JAENECKE ET AL.	
	Examiner	Art Unit	
	Nicholas R Taylor	2141	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 25 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-21 have been presented for examination and are rejected.

Response to Arguments

2. Applicant's arguments filed 2/17/2005 have been fully considered but they are not persuasive.

3. In the remarks, applicant argued in substance that:

(A) Prior art does not teach transmitting a pilot code for the duration of the connection between the terminal and the mainframe.

As to point (A), the Examiner disagrees with the Applicant's reading of the Shino teaching. Shino teaches sending multiple packets varying in format based on channel conditions throughout the duration of the connection (Shino, column 1, line 65 to column 2, line 15.) Shino teaches all possible packet formats sent throughout the connection as containing a pilot code (Shino, figure 3.) Therefore, Shino anticipates the limitations of the claimed invention.

(B) Prior art teaches multiple types of reference signals, while the claimed invention teaches only one type.

As to point (B), Applicant is correct that during certain situations Shino teaches the additional sending of a pilot code beyond the combination pilot / reference code.

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However, during configuration I no additional pilot code is combined (Shino, figure 3.) Configuration I is used exclusively during communication with a slow moving mobile station (Shino, column 2, line 65 to column 3, line 3.) Furthermore, the claim language does not specify that the claimed invention is limited to only one reference data packet.

(C) Prior art teaches encoding reference data using a reference spreading code, while in contrast the claimed invention encodes using a pilot code.

As to point (C), the reference spreading code used by Shino is a generated CDMA code (Shino, column 3, lines 35-54.) The pilot code used by Applicant is a generated CDMA code (specification, page 4, lines 19-26.) Therefore, while the terms differ, they are semantically identical and the claimed invention does not distinguish from the prior art.

4. Applicant's arguments with respect to claims 17-21 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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6. Claims 1-13 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiino (US Patent 6,452,936 B1), and Bush ("S-CDMA: Two-way data over cable.")

7. As per claim 1, Shiino teaches a method of transferring user data packets from a terminal to a mainframe of a point to multi-point system (Shiino, column 2, lines 40-46), comprising: transmitting a reference data packet coded with a pilot code for the duration of the connection between terminal and mainframe (Shiino, column 3, lines 4-12, and Figure 3, specifically configuration III), wherein the reference data packet contains previously known information (Shiino, column 3, lines 4-6), and sequentially sending user data packets coded with at least one communication code (Shiino, column 3, lines 36-40), which in each case comprise the user information to be transferred (Shiino, column 3, lines 4-12, and Figure 3, specifically configuration III.)

However, Shiino fails to teach the use of the method specifically in an S-CDMA system. Bush teaches the use of an S-CDMA system (Bush, entire article.) It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Shiino and Bush to provide S-CDMA capabilities in the system of Shiino, because doing so would allow the benefits of the S-CDMA format (Bush, "S-CDMA is rate-adaptive..." paragraph.)

8. As per claim 2, Shiino further teaches the method wherein each terminal is allocated a pilot code, at least for the duration of a connection, and each terminal is

allocated at least one communication code at least for the duration of the transfer of a user data packet (Shiino, column 3, lines 35-48.)

9. As per claim 3, Shiino further teaches the method wherein the coding of the reference data packet with the pilot code takes place synchronously in time to the coding of the user data packets with the at least one communication code (Shiino, column 3, lines 35-45.)

10. As per claim 4, Shiino further teaches the method wherein from each reference data packet and user data packet or user data packets synchronously coded in time (Shiino, column 3, lines 35-45) a summation signal is formed (Shiino, column 3, lines 50-53) which, after subsequent modulation, is transmitted to the mainframe (Shiino, column 3, lines 53-59.)

11. As per claim 5, Shiino further teaches the method wherein at the times at which a user data packet is being transmitted no reference data packet is transmitted (Shiino, column 3, lines 4-24, and Figure 3, specifically configuration III.)

12. As per claim 6, Shiino further teaches wherein the pilot codes are CDMA codes and the communication codes are CDMA codes, wherein the pilot codes originate from a different CDMA code family from the communication codes and wherein no pilot code is identical to any communication code (Shiino, column 3, lines 45-48.)

13. As per claim 7, Shiino further teaches wherein the pilot codes are orthogonal to one another and the communication codes are orthogonal to one another (Shiino, column 3, lines 45-48.)

14. As per claim 8, Shiino further teaches wherein the pilot codes are not orthogonal to one another and the communication codes are orthogonal to one another (Shiino, column 3, lines 45-48.)

15. As per claim 9, Shiino teaches a mainframe for a point to multi-point system for transferring user data packets from terminals to the mainframe (Shiino, column 2, lines 40-46), said mainframe being suitable for repeatedly receiving a reference data packet coded with a pilot code and containing previously known information on each connection to a terminal (Shiino, column 3, lines 4-6) and for deriving synchronization information from the signal of the reference data packet, wherein the mainframe receives user data packets, coded with at least one communication code and comprising user information on each connection to a terminal (Shiino, column 3, line 62 to column 4, line 8.)

However, Shiino fails to teach the use of the use of the mainframe specifically in an S-CDMA system. Bush teaches the use of an S-CDMA system (Bush, entire article.) It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Shiino and Bush to provide S-CDMA capabilities in the

system of Shiino, because doing so would allow the benefits of the S-CDMA format (Bush, "S-CDMA is rate-adaptive..." paragraph.)

16. As per claim 10, Shiino further teaches the mainframe being suitable for deriving from the signal of the reference data packet information on the signal quality (Shiino, column 5, lines 17-28.)

17. As per claim 11, Shiino further teaches the mainframe comprising a control unit to allocate pilot codes and communication codes to terminals, wherein for each connection of a terminal to the mainframe a pilot code and at least one communication code at least for the duration of the transfer of a user data packet is assigned by the control unit (Shiino, column 3, lines 35-48, see also reference signal generator 140 in Figure 1.)

18. As per claim 12, Shiino further teaches the mainframe comprising at least one measuring unit to determine the signal-to-noise ratio for each connection to a terminal from the received pilot codes (Shiino, column 5, lines 17-28 and column 5, lines 42-44, wherein interference is noise.)

19. As per claim 13, Shiino further teaches the mainframe comprising at least one measuring and control unit is provided to measure the signal levels of the received reference data packets and for telemetric regulation of the transmitting levels of the

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terminals for the reference data packets and/or the user data packets as a function of the measured signal levels (Shiino, column 5, lines 17-44.)

20. As per claim 15, Shiino teaches a transmitting device for a system, comprising a first coder for coding a reference data packet with a pilot code and a second coder for coding user data packets with at least one communication code are provided (Shiino, column 3, lines 35-48), wherein the reference data packet contains previously known information and the user data packets comprise the user information to be transferred (Shiino, column 3, lines 4-12) and an adder is provided for adding the output signals of the coders (Shiino, column 3, lines 50-55.)

However, Shiino fails to teach the use of the use of the device specifically in an S-CDMA system. Bush teaches the use of an S-CDMA system (Bush, entire article.) It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Shiino and Bush to provide S-CDMA capabilities in the system of Shiino, because doing so would allow the benefits of the S-CDMA format (Bush, "S-CDMA is rate-adaptive..." paragraph.)

21. As per claim 16, Shiino further teaches a transmitting device comprising a modulator for HF modulation of the output signals of the adder (Shiino, column 3, lines 54-59.)

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22. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Shiino (US Patent 6,452,936 B1) and Bush ("S-CDMA: Two-way data over cable"), further in view of Nordbotten ("LMDS Systems and their Application.")

23. As per claim 14, Shiino-Bush teaches the above. However, Shiino-Bush fails to teach said mainframe being constructed as a base station for an LMDS system. Nordbotten teaches the use of LMDS systems (Nordbotten, "The Principle of Operation" section.)

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Shiino-Bush and Nordbotten to provide LMDS system functionality in the system of Shiino-Bush, because doing so would allow the advantages of an LMDS system such as easy operation and deployment, flexibility in on-demand capacity allocation, and potential support for a broad spectrum of applications (Nordbotten, "Introduction" section, final paragraph.)

24. Claims 17-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shiino (US Patent 6,452,936 B1) and Bush ("S-CDMA: Two-way data over cable"), further in view of Honkasalo (US Patent 6,101,176.)

25. As per claims 17 and 18, Shiino-Bush teaches the above, yet fails to teach receiving only one reference data packet coded with a pilot signal on each connection to

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a terminal. Honkasalo teaches a CDMA connection using one reference data packet coded with a pilot signal on each connection (Honkasalo, column 11, lines 34-66.)

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Shiino-Bush and Honkasalo to provide the one reference packet connection of Honkasalo in the system of Shiino-Bush, because doing so would provide effective sharing of the same frequency bands between overlaid CDMA systems while simultaneously preventing interference (Honkasalo, column 3, lines 16-20.)

26. As per claims 19, 20, and 21, Shiino-Bush teaches the above, yet fails to teach wherein the mainframe and terminal are always synchronized during the entire duration of the connection.

Honkasalo teaches a CDMA connection using synchronization during the entire connection duration (Honkasalo, column 18, line 60 to column 19, line 16.) It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to have combined Shiino-Bush and Honkasalo to provide the synchronization of Honkasalo in the system of Shiino-Bush, because doing so would provide effective sharing of the same frequency bands between overlaid CDMA systems while simultaneously preventing interference (Honkasalo, column 3, lines 16-20.)

Conclusion

27. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

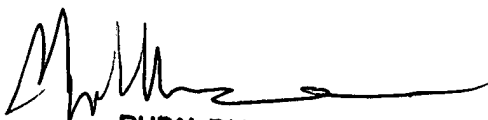
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicholas Taylor whose telephone number is (571) 272-3889. The examiner can normally be reached on Monday-Friday, 8:00am to 5:30pm, with alternating Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rupal Dharia can be reached on (571) 272-3880. The fax phone number for the organization where this application or proceeding is assigned is (703) 305-3718.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nicholas Taylor
Examiner
Art Unit 2141



RUPAL DHARIA
SUPERVISORY PATENT EXAMINER